

Things They Never Taught You in CMM School

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Engineering Workshop**

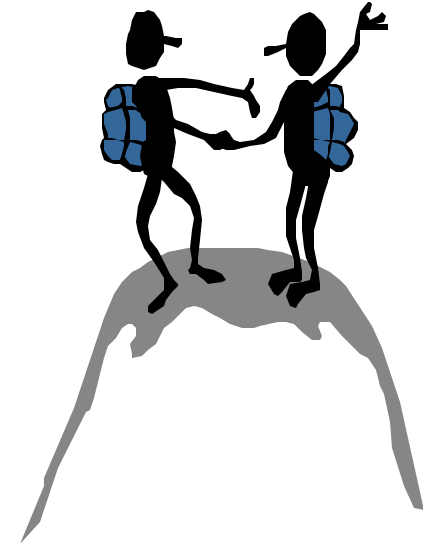
27-29 November 2001



Background



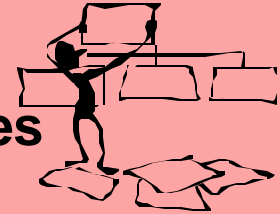
- **Some improvement initiatives are successful**
 - High levels of maturity, achieved in record time, huge ROI numbers
- **Some improvement efforts are not**
 - Wasted efforts, lack of senior management support, practitioner resistance (or sabotage)
- **Why?**
- **This presentation discusses some of the common mistakes**
 - Lack of experience or knowledge
 - Cultural “blind spots”
 - Lack of discipline
 - Optimistically wishing the world didn’t work the way it does
- **Recognizing these mistakes helps you avoid them**



Reasons for Failure



- Failing to define reasonable goals and plans
- Failing to tie improvement goals to business objectives
- Inadequate resources and unrealistic expectations



- Ready – Fire – Aim!
- A Level 1 improvement project
- One size fits all



- Ignoring middle management
- Who needs institutionalization?
- Defining the process too early
- I can do it myself



Failures in Strategy



- **Failing to define reasonable goals and plans**
- **Failing to tie improvement goals to business objectives**
- **Inadequate resources and unrealistic expectations**
- **Senior management is often motivated to improve, but lacks a detailed understanding**
 - “Really” interested in other business drivers (e.g., profitability, competitive position, meeting current commitments, etc.)
- **SEPGs often over-commit to “get their foot in the door” or because they don’t have good methods of estimating**
 - Common quoted data (18 months to achieve Level 2), doesn’t take into account your situation, funding, experience, etc.
- **This leads to perceived failure by management**

**“Level X
in 2001”**

Successful Strategies



- **Tie your improvement objectives to the business objectives**
 - But you have to ask! (They may not exist!)
- **Assess where your current practices are relative to meeting these goals**
 - May require non-CMM assessments and benchmarking
- **Define the goals clearly and quantifiably**
 - How will you demonstrate improvement?
- **Meet with management periodically to demonstrate short-term accomplishment of plans, and long-term achievement of goals**



Failures in Planning

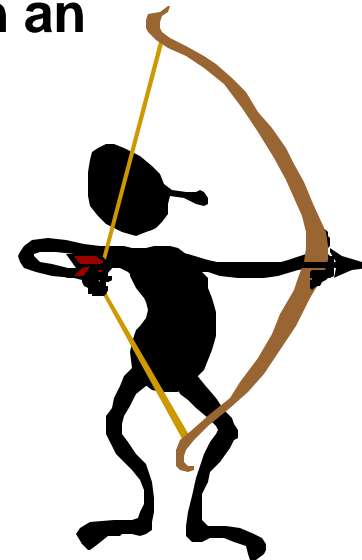


- Ready – Fire – Aim!
- A Level 1 improvement project
- One size fits all
- Some organizations start improvement efforts without an assessment (and/or without CMM knowledge)
 - “Lets do the easy things first.”
 - “The CMM says we have to ...”
- Some SEPGs run their improvement effort like another Level 1 project
 - No requirements, no plan, no tracking against plan, no configuration management, no quality assurance, ...
- Some organizations over-focus on pre-packaged solutions
 - “Let’s buy a Level X development process”

Successful Planning



- **Start by conducting a thorough assessment with an experienced assessor**
 - The value is knowing what to fix first
- **Train everyone on the CMM**
 - What is the target?
 - How do I interpret key CMM concepts in this organization?
 - What do I have to do?
 - What will the SEPG provide?
- **Develop a detailed plan for the SEPG activities**
 - Clearly defined goals/requirements, milestones, products, services
- **Develop detailed plans for the project activities**
- **Track performance monthly against your plans**
 - Use action item tracking to avoid losing track of a good idea



Failure in Execution



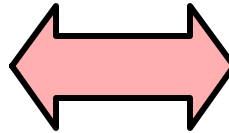
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 - I can do it myself
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- Improvement is not simply about doing things differently; it requires a change in the culture to sustain the improvements
 - Middle managers stand the most to lose, and are the most effective in resisting change
 - A strong culture does not imply everybody does it the same way
 - Institutionalization versus Standardization
 - SEPG skills are different than software development and management skills

Successful Execution



To achieve a Key Process Area, you have to:

Implement the Activities
(industry best practices)



Institutionalize the Activities
(checks & balances)

Requirements Management

1. The software engineering group reviews the allocated requirements before they are incorporated into the software project.
2. The software engineering group uses the allocated requirements as the basis for software plans, work products, and activities.
3. Changes to the allocated requirements are reviewed and incorporated into the software project.

Commitment to Perform
policies, sponsorship

Ability to Perform
resources, training

Measurement & Analysis
measurements

Verifying Implementation
quality audits,
management reviews

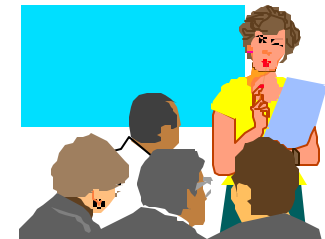
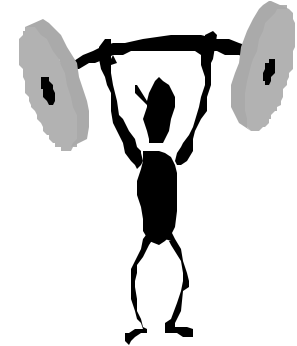
***Where skill and SPI
experience is most valuable***

Example is from CMM, but similar structure in CMMI

Successful Execution (continued)



- SEPG work requires special skills and knowledge
 - Listening, communicating, influencing, facilitating, negotiating, team-building, conflict resolution
 - Assessing, benchmarking, alternative practices
 - **Thorough knowledge of how to interpret the CMM in different situations**
- Training is a huge discriminator in effective SEPGs
 - SEPG structures, activities, and work products
 - **Cultural barriers to improvement**
 - Technology transfer
 - **Action planning**
 - Obtaining and keeping senior management buy-in
- Get help and advise (at least initially)
 - Consultants, Software Process Improvement Networks, SEPG conferences, ...

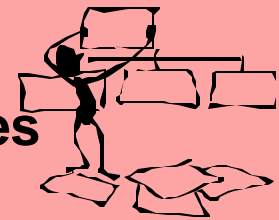


Summary



Successful SEPGs avoid the top ten mistakes

- Failing to define reasonable goals and plans
- Failing to tie improvement goals to business objectives
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